

REMARKS

The Non-Final Office Action, mailed May 1, 2009, considered claims 1, 5-6, 8-9, 13-14, 16-19, 21 and 31-37. Claims 1, 5, 6 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable by Julien (U.S. Publication No. 2002/0129011) in view of Andreas (NPL Document "Using Subpages for Coherency Control in Parallel Database Systems by Andreas Listl") and further in view of Benayon et al. (U.S. Patent No. 6,249,852). Claims 13, 14, 16-18, 21 and 31-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable by Julien in view of Benayon.

By this response, claims 1, 5, 9, 13, 16-17, 19, 21 and 37 are amended and claims 6, 8, 14, 18 and 31-36 are cancelled, such that claims 1, 5, 9, 13, 16-17, 19, 21 and 37 remain pending and of which claims 1, 13 and 21 are the only independent claims at issue. Support for the amendments is found throughout the specification, including, but not limited to the disclosure found in ¶¶ [0026]-[0029], ¶¶ [0037]-[0044], and Figures 1-2 and 9-11 of U.S. Patent Application Publication No. 2005/0234974.

The claims are generally directed to embodiments for employing an allocation lock to facilitate operations of concurrent transactions at a sub-page level. Claim 13, for example, recites a method that facilitates synchronization of the concurrent database transactions. Claim 13 defines creating a copy of a database data page for each of a plurality of concurrent database transactions. The transactions store a respective copy of the data page in a separate reserved space to facilitate modifying the data page. A plurality of exclusive row level locks are assigned to the transactions, the locks grant each of the transactions exclusive permission to modify a different row in their respective copies of the data page. Information related to the locks is stored.

Each of the transactions modifies their respective copies of the data page using row level operations to facilitate modifying the database data page. Information is obtained on an aggregate size change that occurs on the data page. The size change is a result of the row level operations performed on the copies of the data page by the database transactions. The information is obtained at least in part by using the information related to the locks. Space consumed on the data page and space available on the data page over all the concurrent database transactions is tracked. It is ensured that the concurrent database transactions do not consume all of storage space on the database data page based in part on the tracked space availability.

Claim 21 recites a computer program product for performing the method of claim 13. Claim 1 recites a system that is related to the method of claim 13, for facilitating synchronization of concurrent database transactions.

Claims 1, 5-6 and 8 were rejected as being obvious in view of Julien, Andreas and Benayon, while claims 13-14, 16-18, 21 and 31-36 were rejected as being obvious in view of Julien and Benayon. In view of the current amendments and cancellations, however, Applicant respectfully submits that the cited art fails to disclose or suggest each limitation of the pending claims for at least the following reasons.

Julien generally discloses a system for collecting specific information from several sources of unstructured digitized data. For example, in the context of the unstructured data comprising pages of the WWW, Julien relies on an identification unit that uses lexical analysis to identify and categorize information elements relevant to, e.g., sales lead information (see ¶ [0012] and ¶ [0016], for example). An aggregator unit relies on pre-determined rules to correlate and establish relationships between the information elements (see ¶ [0018], for example). However, Julien fails to disclose or suggest a database (including a database data page) and a plurality of concurrent database transactions, and wherein (1) a lock manager stores lock information and enables sub-page locking across the concurrent transactions for modifying the database data page, and (2) a page aggregator operates across the concurrent transactions to obtain information (using the lock information) on an aggregate size change that occurs on the database data page as a result of modifications made by the concurrent transactions, among other things.

The other cited art also fails to overcome at least the foregoing deficiencies of Julien. For example, Andreas generally discusses a virtual database cache that uses pages subdivided into equal sized sub-pages. However, Andreas fails to disclose or suggest, among other things, a lock manager that stores lock information and a page aggregator that uses the lock information to obtain an aggregate size change.

Benayon generally discusses a method for managing storage for allocation and de-allocation requests of fixed size data objects, but Benayon also fails to overcome at least the foregoing deficiency of Julien and Andreas.

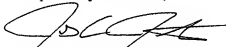
For at least this reason, independent claims 1, 13 and 21 patentably define over the art of record. Each of the dependent claims also patentably defines over the art of record for at least the same reason as claims 1 and 13.

In view of the foregoing, Applicant respectfully submits that all the rejections to the independent claims are now moot and that the independent claims are now allowable over the cited art, such that any of the remaining rejections and assertions made, particularly with respect to all of the dependent claims, do not need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice, and particularly with regard to the dependent claims.¹

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

Dated this 8th day of July, 2009.

Respectfully submitted,



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¹ Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting any official notice taken. Furthermore, although the prior art status of the cited art is not being challenged at this time, Applicant reserves the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.